WHAT IS CLAIMED IS:

1. A radiation detector having a wavelength conversion member for converting radiation into light and a sensor panel for detecting light converted by the wavelength conversion member, wherein:

after projections formed on a surface of the wavelength conversion member to be bonded to the sensor panel are made small, the wavelength conversion member and the sensor panel are bonded together.

2. A radiation detector according to claim 1, wherein a height of each projection before bonding is 50 μm or lower.

3. A radiation detector according to claim 1, wherein the wavelength conversion member and the sensor panel are bonded together by an adhesion layer, and the adhesion layer has such a thickness as a resolution response to light converted by the wavelength conversion member is at least 0.7 or larger.

4. A radiation detector according to claim 1, wherein the whole surface of the wavelength conversion member is covered with a protective layer.

5. A radiation detector according to claim 1, wherein the wavelength conversion member is made of

caesium iodide.

6. A radiation detector having a wavelength conversion member for converting radiation into light and a sensor panel for detecting light converted by the wavelength conversion member, wherein:

after top surfaces of projections formed on a surface of the wavelength conversion member to be bonded to the sensor panel are made parallel to a surface of the sensor panel, the wavelength conversion member and the sensor panel are bonded together.

7. A radiation detector according to claim 6, wherein the wavelength conversion member and the sensor panel are bonded together by an adhesion layer, and the adhesion layer has such a thickness as a resolution response to light converted by the wavelength conversion member is at least 0.7 or larger.

8. A radiation detector according to claim 6, wherein the whole surface of the wavelength conversion member is covered with a protective layer.

9. A radiation detector according to claim 6, wherein the wavelength conversion member is made of caesium iodide.

10. A scintillator panel having a wavelength conversion member formed on a substrate, the wavelength conversion member converting radiation into light, and projections formed on a surface of the wavelength conversion member on the side opposite to the substrate being made equal to or smaller than a threshold value.

11. A scintillator panel according to claim 10, wherein the threshold value is 50 μm.

12. A radiation detector having the scintillator panel recited in claim 10 and a sensor panel for detecting light converted by the scintillator panel.

13. A scintillator panel having a wavelength conversion member for converting radiation into light, wherein:

a first protective layer is formed on the wavelength conversion member, projections on a surface of the wavelength conversion member are made small or removed from the upper side of the first protective layer, and thereafter a second protective layer is formed.

14. A scintillator panel according to claim 13, wherein a height of each projection is 50 μm or lower before the second protective layer is formed.

15. A scintillator panel according to claim 13, wherein the wavelength conversion member is made of caesium iodide.

16. A radiation detector having the scintillator panel recited in claim 13 and a sensor panel, wherein a plane of the scintillator panel whose projections and recesses are made small is bonded to a light reception plane of the sensor panel.

17. A radiation detector according to claim 16, wherein the second protective layer also serves as an adhesion layer for bonding the scintillator panel and the sensor panel.

18. A radiation detector according to claim 16, wherein the wavelength conversion member and the sensor panel are bonded together by an adhesion layer, and the projections are made small so that a thickness of the adhesion layer is 50 μm at a maximum or thinner.

19. A radiation detector according to claim 16, wherein the wavelength conversion member and the sensor panel are bonded together by an adhesion layer, and the adhesion layer has such a thickness as a resolution response to light converted by the wavelength conversion member is at least 0.7 or larger.

20. A radiation detector according to claim 16, wherein the wavelength conversion member is made of caesium iodide.

21. A method of manufacturing a scintillator panel having a wavelength conversion member formed on a substrate, the wavelength conversion member converting radiation into light, the method comprising a step of:

making projections formed on a surface of the wavelength conversion member on the side opposite to the substrate equal to or smaller than a threshold value.

22. A method according to claim 21, wherein a first protective layer is formed on the wavelength conversion member, projections on a surface of the wavelength conversion member are made small or removed from the upper side of the first protective layer, and thereafter a second protective layer is formed.

23. A method according to claim 21, wherein the threshold value is 50 μm.

24. A method according to claim 21, wherein the projections are made small by crushing the projections.

25. A method according to claim 21, wherein the

projections are made small by scraping the projections.

26. A method according to claim 21, wherein the projections are made small by cutting off portions of the projections.

27. A method according to claim 21, wherein the projections are made small by using laser.

28. A method according to claim 21, wherein prior to making the projections are made small, a height of each projection is measured, and if the height of the projection exceeds a predetermined threshold value, the projection is made small so that the height is equal to or smaller than the threshold value.

29. A method according to claim 21, wherein each projection is measured in accordance with a detection result of a contrast of a surface image of the wavelength conversion member.

30. A method of manufacturing a radiation detector having a wavelength conversion member for converting radiation into light and a sensor panel for detecting light converted by the wavelength conversion member, the method comprising a step of:

after making small projections formed on a surface

of the wavelength conversion member to be bonded to the sensor panel, bonding the wavelength conversion member and the sensor panel.

31. A method according to claim 30, wherein:

a first protective layer is formed on the wavelength conversion member, projections on a surface of the wavelength conversion member are made small or removed from the upper side of the first protective layer, and thereafter a second protective layer is formed.

32. A method according to claim 30, wherein the wavelength conversion member and the sensor panel are bonded together by an adhesion layer, and the projections are made small so that a thickness of the adhesion layer is 50 μm at a maximum or thinner.

33. A method according to claim 32, wherein when the adhesion layer is sandwiched between the wavelength conversion member and the sensor panel, a thickness of the adhesion layer is adjusted by adhesive agent between the wavelength conversion member and the sensor panel.

34. A method according to claim 32, wherein the adhesion layer is made of adhesive agent flowed in a

gap having a thickness of 50 μm at a maximum between the wavelength conversion member and the sensor panel.

35. A method according to claim 33, wherein the adhesive agent is pressure sensitive adhesive agent.

36. A method according to claim 30, wherein the projections are made small by crushing the projections.

37. A method according to claim 30, wherein the projections are made small by scraping the projections.

38. A method according to claim 30, wherein the projections are made small by cutting off portions of the projections.

39. A method according to claim 30, wherein the projections are made small by using laser.

40. A method according to claim 30, wherein prior to making the projections are made small, a height of each projection is measured, and if the height of the projection exceeds a predetermined threshold value, the projection is made small so that the height is equal to or smaller than the threshold value.

41. A method according to claim 30, wherein each

projection is measured in accordance with a detection result of a contrast of a surface image of the wavelength conversion member.

42. An apparatus for manufacturing a scintillator panel having a wavelength conversion member for converting radiation into light, the apparatus comprising:

means for detecting projections and recesses on a surface of the wavelength conversion member;

means for measuring a height difference of the projections and recesses;

means for comparing the height difference with a predetermined threshold value; and

means for reducing the sizes of the projections and recessed in accordance with a comparison result.

43. An apparatus according to claim 42, wherein the threshold value is set to such a value as a resolution response of an image output through radiation detection takes at least a value of 0.7 or larger.

44. A radiation detector system having the radiation detector recited in claim 1, image processing means for processing signals output from the radiation detector as an image, recording means for recording

signals output from the image processing means, display means for displaying signals output from the display means, and transmission means for transmitting signals output from the image processing means.